



NATIONAL ASSOCIATION OF THE DEAF

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March 13, 1996

Mr. William F. Caton
Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

Re: In the Matter of Closed Captioning
and Video Description of Video
Programming, MM Dkt. No. 95-176

Dear Mr. Caton:

Enclosed please find the original and four copies of Comments (with Attachments) of the National Association of the Deaf in response to the Notice of Inquiry released in the above-referenced proceeding.

I would appreciate your referring all correspondence regarding this matter to my attention.

Sincerely,

Karen Peltz Strauss
Legal Counsel for
Telecommunications Policy

Enclosures

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OFFICE OF SECRETARY

Before the
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Washington, D.C. 20554

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)	
Closed Captioning and Video)	CC Docket No. 95-176
Description of Video)	
Programming)	DOCKET FILE COPY ORIGINAL

COMMENTS OF
THE NATIONAL ASSOCIATION OF THE DEAF

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COMMENTS OF
THE NATIONAL ASSOCIATION OF THE DEAF

I. INTRODUCTION

The National Association of the Deaf (NAD) hereby submits comments to the Federal Communications Commission's (FCC's) Notice of Inquiry (NOI) on closed captioning and video description. In the Matter of Closed Captioning and Video Description of Video Programming, MM Docket No. 95-176, FCC 95-484, summarized at 60 Fed. Reg. 65052 (Dec. 18, 1995) et. seq. The NAD is the nation's largest organization safeguarding the accessibility and civil rights of 28 million deaf and hard of hearing Americans in education, employment, health care, and telecommunications. The NAD is a private, non-profit federation of 51 state association affiliates including the District of Columbia, organizational affiliates, and direct members. The NAD seeks to assure a comprehensive, coordinated system of services that is accessible to Americans who are deaf and hard of hearing, enabling them to achieve their maximum potential through increased independence, productivity, and integration.

At the outset, the NAD wishes to applaud the FCC on its decision to initiate the instant proceeding to assess the

availability, costs, and uses of closed captioning and video description. On a number of occasions, both the Commission and the Congress have recognized the need to promote full and equal access to video programming for all Americans. The in-depth knowledge that the Commission will gather through this NOI is the first step toward the realization of that goal. Because closed captioning is one of our chief areas of expertise, these comments focus on captioning issues. We would, however, also like to state our strong support for comments submitted by the American Foundation of the Blind in favor of Commission rules to require video description of television programs. Just as the audio portions of television programs should be converted into written format, so too should the visual elements of programs be converted into voiced narrations.

The Commission released the instant proceeding on December 4, 1995. Approximately two months later, landmark legislation overhauling our nation's telecommunications laws was signed into law by President Clinton. Telecommunications Act of 1996, Pub. L. 104-104, to be codified at 47 U.S.C. §151 et. seq. As the Commission noted in its February 27, 1995 Order in this proceeding, Section 305 of the Telecommunications Act contains specific mandates for the provision of closed captioning of video programming. Having assisted in the drafting of those legislative provisions, we offer the Commission guidance on their appropriate interpretation.

II. BENEFITS OF CLOSED CAPTIONING

A. Importance and Nature of Benefits of Closed Captioning

The Commission itself recognizes the pervasiveness of television in our society. The NOI references the many hours that Americans watch television during the course of a day and refers to the television medium as "tremendously powerful." NOI at 6.

Television provides a lifeline to the world, in the form of news, information, education, and entertainment. Just as a hearing person can derive little or no benefit from watching television with the volume off, a deaf or hard of hearing person can derive little or no benefit from watching a program with no captions. Because captioning is so integral to one's understanding and enjoyment of video programming, it needs to become an integral part of the production process for all video programming. A producer or video provider would not think of exhibiting a television show without its soundtrack; neither, in the future, should a producer or video provider consider displaying a show without captions.

Closed captioned programming provides individuals who are deaf and hard of hearing with essential access to national and worldwide current events, local and community affairs, and entertainment, bringing these individuals into the cultural and political mainstream of our society. Without captions, this critical link is lost, preventing these individuals from having basic access to the information and knowledge which the rest of

society takes for granted. Indeed, on more than one occasion, Congress has stated the importance of ensuring "that all Americans have access to and can enjoy the benefits of what is a public benefit - our Nation' airwaves." S. Rep. No. 101-393, 101st Cong., 2d Sess. (1990) at 6 (reporting on the Television Decoder Circuitry Act of 1990).

B. Statistics on the Number of Individuals with Hearing Disabilities who can Benefit from Captioning

1. General Population

The NOI seeks information on the number of individuals in the United States who have hearing disabilities. The National Center for Health Statistics reports that people with varying degrees of hearing disabilities comprise 8.6 percent of the United States' population.¹ According to the National Institute on Deafness and Other Communications Disorders, as of 1994, more than 28 million Americans had some degree of hearing loss; 80 percent of these individuals had irreversible and permanent damage to their hearing.

2. Senior Citizens

According to a 1990 survey conducted by the National Center for Health Statistics, senior citizens comprise approximately 29 percent of the total population. Moreover, it is well established that the population of the United States as a whole, is aging rapidly. For example, the Washington Post recently

¹ Ries, Peter, "Prevalence and Characteristics of Persons with Hearing Trouble," The Vital & Health Statistics Series 10 No. 188 (NCHS 1990-91).

reported that in the Washington area alone, the population of individuals older than 65 has increased by 16.5 percent since 1990, nearly four times the rate of population growth - 4.8 percent - of the under-65 population during that time.² The Post explained that this mirrors a national trend in which people are living longer, and in which the "85-plus group is the fastest-growing segment of the population." Id. The reasons for this are twofold: improved health care which has allowed us to live longer and the coming of age of the "baby boom" generation, a product of the significant growth in the number of births in the late 1940's and 1950's.

Efforts to locate statistics on the growing population of individuals with hearing loss produced a variety of results, all of which generally conclude that the number of Americans who are living longer is steadily rising, with the incidence of hearing disabilities also being on the rise. According to 1994 Vital and Health Statistics of the U.S. Department of Health and Human Services, for example, 415 of every 1000 people over age 75 have some type of hearing disability.

In 1989, researchers from the Center for Assessment and Demographic Studies at Gallaudet University analyzed the effect that our aging population will have on the overall rate of hearing disabilities. They found that as the age structure of the total population grows, the number of elderly people with hearing loss will grow as well. They estimated that

² The Washington Post, Sec. A, p. 1 (March 8, 1996)

approximately 306 per thousand senior citizens (over the age of 65) will have hearing loss by the year 2015, and that the overall incidence of hearing loss in the entire population will be approximately 109.6 per thousand, climbing to more than ten percent of the overall population by that year.³ Similarly, at a recent national conference devoted to making wireless telecommunications accessible to hearing aid users, it was disclosed that currently 22 million adults over 65 now have a hearing loss, and that this number will nearly double to over 40 million within the next 10 years.⁴

The number of senior citizens who are taking advantage of closed captions is also growing. Prior to the Television Decoder Circuitry Act, the only way to display closed captions from a television set was through decoder equipment that had to be purchased separately from the television, and later hooked up. Many senior citizens were reluctant to purchase these decoders for a variety of reasons, including (1) an unwillingness to acknowledge their hearing loss and to experience the "stigma" of having to purchase a device to address those hearing needs, (2) an inability to afford a separate decoder, (3) the limited

³ Hotchkiss, D. "Hearing Impaired Elderly Population: Estimation, Projection and Assessment," Gallaudet Research Institute, Gallaudet University (Wash. D.C. 1989); Brown, Hotchkiss, Allen, Schein & Adams, "Current and Future Needs of the Hearing Impaired Elderly Population," Gallaudet Research Institute, Gallaudet University (Wash. D.C. 1989)

⁴ "Understanding Hearing Loss", Summit Meeting, Hearing Aid Compatibility and Accessibility to Digital Wireless Telecommunications, Stephen Epstein, M.D., FACS and Carol Flexer, Ph.D., FAAA (1996).

availability of captioned programs, and (4) concerns about the difficulties of hooking up yet another technological device to each of their television sets. Since July of 1993, senior citizens who have purchased television sets have had the comfort of knowing that captioning access is built right into those television sets. The consequence has been a greater understanding and enjoyment of the captioned programming they watch, and reduced reliance on family members and friends to explain what comes over the television soundtrack.

3. Children

It has been reported that more than 3 million children have a hearing loss. 1.3 million of these children are under 3 years of age.⁵ In addition, it has been reported that approximately 15 of every 1000 people under age 18 have some type of hearing disability.⁶

Nine out of ten deaf and hard of hearing children have hearing parents, and seven out of ten deaf and hard of hearing students are placed in public school settings.⁷ In many cases, a child with a hearing disability may be the only deaf or hard of hearing child attending that school. Moreover, in all too many

⁵ "Is My Baby's Hearing Normal?," American Academy of Otolaryngology-Head and Neck Surgery (1994).

⁶ National Strategic Research Plan for Hearing and Hearing Impairment and Voice Disorders, National Institute on Deafness and Other Communications Disorders (1992).

⁷ 1993-94 Annual Survey of Deaf and Hard of Hearing Children and Youth, Center for Assessment and Demographic Studies, Gallaudet University (Wash., D.C.)

schools, the provisions for accommodating the communication needs of children with hearing disabilities fall far short of what the law requires. This is because the current educational trend focuses on placement of deaf children in mainstream classrooms without adequate consideration for their individual needs. Sign language interpreters, captioned media, and assistive listening devices are often not available, and typically teachers themselves do not sign.⁸ The consequence is that quite often deaf and hard of hearing children do not have effective ways of receiving information at either home or school.

There is now a commitment to link up each and every classroom in America to the information superhighway. The importance of ensuring the captioning of all video programming coming through this network cannot be overstated.

Providing these children with closed captioning of television programs - as a complement to books and other printed materials - is critical to enabling them to receive the same information as their peers about the world in which they live.

⁸ For example, according to Quality Education Data, Inc., although 26 percent of all school districts in the United States had video disc technology in 1994, none of the discs were captioned. Similarly although many schools use courses delivered nationwide by satellite at predetermined times, these video courses are also not captioned. Finally, it has been estimated that although 5.5 million computers were installed in the nation's schools by 1994, (an increase of 98 percent since 1981), the percentage of captioned computer programs has remained near zero. A survey completed by NAD in October 1994 confirmed that closed-captioning of videocassettes by educational and special interest producers/distributors has been minimal. Of the respondents, 41 percent reported that they do not caption any tapes and 34.4 percent reported that they caption 10 percent or less.

Television offers deaf and hard of hearing children - as well as adults - exposure to medical, legal, and other specialized areas of information which might not otherwise be familiar to these individuals.⁹ Additionally, captioning is very useful in exposing children to patterns of spoken English, such as slang and idioms typically used in everyday dialogue, that is not always found in literature. Finally, captioning provides significant social benefits for children. When programs are captioned, deaf and hard of hearing children do not have to depend on family members to interpret the soundtrack of those programs. In this manner, captioning helps to facilitate healthy family interaction and allows a larger measure of independence to deaf and hard of hearing children. Similarly, the ability to enjoy watching or discussing television shows with one's peers advances greater acceptance of the child into his or her own community. This in turn results in higher self-esteem and better social interactions throughout the child's growing years.

C. Other Populations that Can Benefit from Closed Captioning

The audiences that can benefit from closed captioning are extremely varied. The National Captioning Institute estimates that nearly 100 million Americans can directly benefit from closed captioned TV. They include in this estimate 24 million

⁹ Prior to captioning, many deaf persons were not acquainted with basic legal concepts, such as Miranda warnings, or simple medical terminology, such as the fact that a "negative" test result is in fact a positive outcome for a patient. One reason for this is that much of America develops a basic familiarity with such specialized terminology from television while growing up.

deaf and hard of hearing people, 30 million Americans for whom English is a second language¹⁰, 12 million young children learning to read, 27 million illiterate adults, and 3.7 million remedial readers (Attachment A).¹¹ Time and again, studies have demonstrated that captions can improve reading comprehension and spelling, augment vocabulary and word recognition, and increase the overall motivation to read.¹² For children, captioning can become an educational tool, turning the 30 hours of television which they watch each week into a learning tool.¹³ For illiterate adults, the ability to increase reading fluency through captions offers greater opportunities to successfully

¹⁰ NCI reports that a significant number of persons who purchased NCI decoders in the past did so for the purpose of learning English as a second language.

¹¹ The many benefits of captioning prompted such organizations as the American Federation of Teachers, the National Education Association, the Literacy Volunteers of America, the American Association of Retired Persons, and the Council for Exceptional Children to strongly endorse passage of the Television Decoder Circuitry Act in 1990, which has required televisions over 13 inches to have built-in decoder capability since July of 1993. We refer the Commission to the comments submitted in this proceeding by the Consumer Action Network for a more comprehensive discussion of the benefits of and research done on captioning for children learning to read, adults with low literacy skills, persons with learning disabilities, and persons learning English as a second language.

¹² See e.g. Jensema, "The Benefits of Closed Caption Television as Reading Material for Children," Institute for Disabilities Research and Training, Inc., MD; Koskinen et. al., "Using Captioned Television to Enhance the Vocabulary and Reading Comprehension of Adults Beginning Readers," American Educational Research Association, LA (1994)

¹³ A 1984 NCI study showed that hearing children who watched television shows with captions significantly improved their vocabulary and oral reading fluency.

participate in the workforce and to enjoy the world of literature, magazines, and newspapers for both knowledge and recreation.

After the Television Decoder Circuitry Act of 1990 went into effect in July of 1993, the Electronics Industry Association (EIA) launched an advertising campaign, called CAPTION VISION, which also recognized the immense audience for captioning. That campaign, designed to encourage the sales of televisions with built-in decoders, explained that "just about everybody can benefit from watching captioned programs." After noting many of the same groups of individuals listed above, EIA's materials also noted that with captioning, sports fans are able to follow scores and commentary in noisy environments such as airports, and "night owls" are able to watch late night television without having the sound disturb the rest of the family (Attachment B, p. 1).¹⁴ Additionally, captioning can and has helped viewers understand the audio portion of television programs in noisy locations such as airports, hotel lobbies, waiting rooms, public exercise facilities, restaurants and bars, or in quiet ones, such as government and private offices. Finally, captioning can help clarify dialogue that uses difficult-to-understand vocabulary and dialogue in programming in which the actors speak with regional or foreign accents.

¹⁴ Promotional materials by the Zenith Corporation similarly touted the benefits of closed captioning TV for all Americans. See Attachment B, p.2.

III. AVAILABILITY OF CLOSED CAPTIONING

A. Closed Captioning According to Program Source

At present, 100 percent of prime time broadcast network programming and the majority of PBS prime time programming is accessible through captions.¹⁵ Approximately 50-75 percent of programming overall is closed captioned on the three major national broadcast networks, including a considerable amount of daytime, children's programming, late-night talk shows, and national sports programming.

Premium (pay) cable stations vary in the amount of programs they close caption, with a recent month showing the percentage of their captioned programs ranging from a low of approximately 33 percent (Showtime) to a high of 83 percent (Disney) (Attachment C, p. 1). At least one pay cable network - HBO - recently established an in-house captioning unit to caption its own prerecorded programs.¹⁶

Although most pay cable networks have developed budgets that include captioning, such budgets fall far short of addressing the access needs of their subscribers who incur costly charges for subscriptions to their video services. Furthermore, most of the basic cable networks caption little or none of their programs. With the exception of CNN and USA, on average, fewer than

¹⁵ Executive Summary: "Captioning the New Frontier," prepared by CPB/WGBH National Center for Accessible Media through a grant from the U.S. Department of Education Captioning and Adaptation Branch (NCAM Executive Summary).

¹⁶ NCAM Executive Summary at 2. HBO continues to use outside service providers to caption its live programming.

8 percent of basic cable programs on these stations are captioned.¹⁷ Again, this has had the inequitable result of deaf and hard of hearing consumers having to pay substantial cable rates in exchange for access to a bare minimum of cable programming.

The Commission has also requested information on the provision of captions on home videos and other video programming. According to data provided by Videolog, a division of Trade Service Corporation, from July 1994 through October 1995, only 9.6 percent of the home videos that were released during that period were captioned. Similarly, although at least 6,000 CD-ROMS have been released on the market, very few of these have captioning equivalents for their audio output. Finally, captioning on Digital Video Disks (DVD) is also scarce.¹⁸

The typical personal computer of the year 2000 may well have enough video compression capability to allow individuals to store their favorite movies directly on their hard drives. Indeed, it is not unlikely that some cable companies or other service companies may shift their focus to computers and on-line networks

¹⁷ This statistic is based on data gathered from television newspaper listings which reported on closed captioned programs for the New York City area in November of 1995. Specifically, 7.83 percent of the programs on the top 25 cable stations, excluding CNN (73.23 percent) and USA (55.74 percent) were captioned during that month. Many of the cable stations in New York City, including AMT, BOX, COURT, E!, NEWSP, PLAY, QVC, SHOP, TNN, and WNJN, and WXTV had no captioned programs whatsoever during November of 1995. See Attachment C, pp. 2-3.

¹⁸ If DVD technology comes to be used for videos on demand over cable, via satellite, or through the Internet, we urge that this technology be required to carry closed captioning.

such as the Internet as a means of delivering their video services. Safeguards that will ensure the quality and continued transmission of captions over these new delivery systems are critically needed.

B. Closed Captioning According to Program Type

1. Entertainment: Almost all entertainment programs on broadcast networks during prime time are captioned; as noted above, this does not hold true for cable networks. In addition, at least half of the talk show programs on broadcast networks are captioned.

2. National News: National broadcast news programs are captioned. However, CNBC scarcely captions any of its news and the Weather Channel is not at all closed captioned (although there is some pre-recorded text shown for local forecasts).

3. Local News and Community Affairs: Most locally produced programs, including those covering news and community affairs, are not captioned. For example, although there are approximately 700 local network stations and cable TV operators across the nation that carry local and national news programs, only 200 of these local stations and operators caption those programs. Of this number only 30, or 4 percent (of the approximately 700 local stations) provide full access for deaf and hard of hearing viewers through real-time captioning of their live news broadcasts. As we discuss later, the remainder provide electronic newsroom passive captioning.

Of particular concern is the fact that programs on issues of

community affairs, such as town hall meetings and educational programming for teenagers on drugs and violence, are not captioned.

4. Documentaries: With the exception of PBS stations, which do caption some of their programs, documentaries on other stations, such as A&E, BET, MTV, and others are rarely captioned.

5. Children's Programming: Sesame Street and other educational shows on PBS are, for the most part, captioned, but educational programs for children which are shown on other channels, including the Learning Channel and the Discovery Channel, are often not captioned. The vast majority of other children's programming on cable stations such as the Cartoon Network, Nickelodeon, and the Family Channel, also are not captioned.

6. Sports: Nearly all games shown on national broadcast networks are captioned. However, less than 10 percent of the programming on ESPN is captioned. ESPN2, the Golf Channel, and sports programs shown locally on broadcast or cable stations are not captioned.¹⁹ Moreover, sports talk shows which are broadcast locally and nationally, such as George Michael's Sports Machine and the Full Court Press, are not captioned.

7. Movies: All movies on broadcast networks shown during prime time are captioned. Very few old movies, such as those

¹⁹ For example, Redskins games broadcast nationally on Fox or other channels are captioned, but when these are broadcast only on the local Fox affiliate, they are not captioned. Similarly, Georgetown and University of Maryland games shown on WBDC are not captioned, nor are Orioles games captioned on HTS.

shown on BRAVO or American Movie Classics are captioned. Additionally, oftentimes, movies are shown on cable TV without captions, even though they had been captioned on home videos.

8. Commercials, Station Breaks, and Previews: Very few commercial advertisements and little or no coming attractions, program recaps, program previews, and station breaks are captioned, on either broadcast networks or cable stations. The absence of captions on these breaks in programming are disruptive and prevent viewers who depend on captioning from enjoying a seamless flow of the programming they are viewing.

C. Previously Published Programming

Most network prime time programs that were produced since 1989 and are now being aired in the re-run market on local stations enter this marketplace with captions.²⁰ However, for the most part, very little of the programming published or exhibited before the mid-1980's was captioned. This includes movies classics such as those featuring Gary Cooper or Gene Kelly as well as situation comedies such as Bewitched and Jackie Gleason.²¹ At times, a program will be exhibited with captions the first time it is shown on television, but when it appears as a re-run on a second network, the captions are not displayed. Three possible reasons for this are (1) the program tape is not

²⁰ The only costs remaining for displaying these programs with captions are reformatting costs. Reformatting of the captions is necessary because the programs have typically been edited to fit into different time slots.

²¹ It is interesting to note that at least one old favorite - I Love Lucy - is, in fact, closed captioned.

labelled for captioning and so the station, unaware that the program is captioned, does not transmit the caption data, (2) the program has been edited and the network has failed to reformat the captions, or (3) the captioned master had not been used when the tape was copied for the station now showing it. Ensuring that such previously published programming is aired with captions will generally involve little or no cost to the video programming provider or owner.

IV. QUALITY

A. Minimum Standards

As more video programmers and owners become subject to the Commission's captioning requirements, the number and types of caption services are also likely to increase. In turn, entities subject to the captioning requirements are likely to take measures to reduce their costs by seeking out less expensive and less professional captioning services. In other words, if left unregulated, lower quality captions could result from the new captioning mandates. It is imperative, then, that the Commission establish minimum standards to ensure the high quality of captioning services. Among other things, such standards should set guidelines to ensure consistency in captioning styles and presentation rates²², determine the types of programming where

²² The extreme inconsistencies among captioning styles make reading captions more difficult for both adults and children. One example is the method used to caption the name of a speaker when he or she cannot be identified by placement on the screen. While some agencies use parenthesis to identify the speaker (preferable to NAD members), others only provide the speaker's name followed by a colon. The NAD has developed a list of appropriate captioning

verbatim vs. non-verbatim captions are appropriate,²³ and determine whether captioning services or the individuals hired by those services to caption programs should meet or exceed certain credentials. At a minimum, we propose the following guidelines to assist in the development of such standards:

1. Individuals who depend on captioning must receive the same information which is available through the program's soundtrack. Indeed the Telecommunications Act itself directs the Commission, in promulgating captioning rules, to ensure that video programming is fully accessible through the provision of closed captions. In order to meet this standard, caption data and information contained in the program's soundtrack must be delivered intact, throughout the entire program. Presently, it is not uncommon for networks to caption a weekly program series, but to leave captions off during the program's initial review of the prior week's show or the previews for the following week's show. Additionally, more frequently than not, advertisers fail to caption commercials shown during captioned programming. Nor is it uncommon for shows that add last minute material - such as the X-Files - to exclude captions from their last minute segments. For individuals relying on captions, all of these

styles, based on the preferences of deaf and hard of hearing viewers.

²³ It is the position of the NAD that captions should be as close to verbatim as possible. However, we support the provision of an additional captioning stream for the benefit of certain audiences such as young children learning to read and individuals learning English as a second language.

omissions are both frustrating and disruptive.

Captions are intended to replace the audio portion of a program; where the Commission imposes requirements to caption particular programs, those programs should be captioned in their entirety, as should the commercials, public service announcements, network promotional materials, station news breaks, and other segments inserted during program breaks.

2. Requirements for proper spelling, grammar, timing, accuracy, and placement of captions should be designed to achieve full access to video programming. For example, captions on prerecorded programming should be 100 percent free of spelling or other errors. The off-line captions prepared for these shows should be thoroughly checked and reviewed before they are broadcast. Where real-time captioning is required by the Commission's rules, such captioning should be performed by stenographers trained specifically for captioning live programs. Without adequate training, spelling and typographical errors can significantly distort the meaning of what is captioned.

3. Captions should include not only spoken information, but all other elements of the soundtrack necessary for accessibility. This should include, but not be limited to, identification of the individual who is speaking if he or she is off-screen or is otherwise unclear to the viewer, information on voice inflections and background noise, audience reaction, and sound effects such as the sound of a person knocking on a door or a phone ringing.

4. Captions should be provided in the style and standards

that are appropriate for the particular type of programming that is being captioned. For example, for the reasons described below, real-time captioning must be used for local news broadcasts and all other live programming.

Currently, 85 percent of the 200 local newscasts that are captioned use computer-generated captioning, also known as electronic newsroom captioning. This method uses special equipment to convert pre-scripted news materials coming over a teleprompter into captions.²⁴ Electronic newsroom captioning simply does not provide full video access because it does not provide captioning of live interviews, banter among anchor persons, field reports, sports and weather updates, school closings, and other late breaking stories which are not pre-scripted. Additionally, this method produces captions which are typically out of sync with what is being reported, lagging far behind or jumping way ahead of the anchor person's statements.

Real-time captioning uses specially trained caption stenographers who simultaneously caption live audio programming, ensuring that viewers receive complete and up-to-the-minute captions of the entire audio portion of a newscast. (Attachment D). Only with real-time captioning can viewers be assured of having full access to live television programs.

²⁴ As mentioned earlier in these comments, of the 200 local news stations nationwide that caption their news, 170 stations use electronic newsroom captioning. One of the many consequences of using electronic newsroom captions is that extraneous material, such as stage instructions and anchor cues, sometimes appear in the captions, further confusing viewers as to what is actually being reported in the news.

5. Captions must be reformatted as necessary when programming has been compressed or otherwise edited. Videos are frequently edited as they move from the movie theater to premium cable to basic cable to syndication. This editing process typically entails removing frames of the video to compress it into a smaller time period. Often this is done to accommodate commercial interruptions and station breaks into the program's time slot. Each time such editing takes place, captions on the program are invariably thrown out of sync. The result is garbled or partial captions that pop on and off randomly throughout the program. Video providers must be required to reformat captions on programs that have been edited, and must perform quality checks after reformatting is completed, to ensure that such captions are presented intact and in place.

6. Care must be taken to ensure that captioning remains intact and in place as it moves through the distribution chain from its point of origination to the local video provider (Attachment E). Often captions on programs that are initially intact arrive scrambled or are completely stripped by the time such programs reach their final cable or local network destinations, when they are sent to TV receivers with decoders. At times, this is caused by engineering errors, for example, if the local video provider places the caption data on the wrong line or field. Other times, the national or local source of the TV signal is not aware that adjusting certain settings during a commercial break can block the captions. For example, sometimes